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In the

Supreme Court of the United States

October Term, 1997

WAYNE K. PFAFF,

Petitioner,

v.

WELLS ELECTRONICS, INC.,

Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

RESPONDENT'S BRIEF ON THE MERITS

JAMES D. HALL
BAKER & DANIELS
205 West Jefferson Boulevard
Suite 250
South Bend, Indiana 46601
(219) 234-4149

C. RANDALL BAIN
Counsel of Record
ALAN H. BLANKENHEIMER
PATRICIA A. HUBBARD
C. MARK KITTREDGE
DAN L. BAGATELL
BROWN & BAIN, P.A.
2901 North Central Avenue
Suite 2000
Phoenix, Arizona 85012
(602) 351-8000

Counsel for Respondent Wells Electronics, Inc.

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QUESTIONS PRESENTED

Section 102(b) of the Patent Act of 1952, 35 U.S.C. § 102(b), prohibits the patenting of an "invention" that was "on sale" in the United States more than one year before the inventor filed an application for a patent. The questions presented are:

(1) whether construction and testing of a physical embodiment of the claimed invention ("actual reduction to practice") is required before the "invention" can be "on sale" for purposes of Section 102(b);

and in particular

(2) whether petitioner had placed his "invention" "on sale" when, more than a year before he applied for his patent, he or his company (a) had made detailed engineering drawings of the same invention he later patented, (b) had contracted to sell over 30,000 units of the product described in the drawings, (c) had sent the drawings to a subcontractor for construction of customized tooling, and (d) had arranged for the manufacture of commercial production quantities of the invention, although no physical product embodying the invention had yet been built.

PARENT COMPANIES AND NONWHOLLY-OWNED SUBSIDIARIES

Respondent's parent company is PCD, Inc. Respondent has one nonwholly-owned subsidiary, Wells CTI Kabushiki Kaisha.

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BRIEF FOR THE RESPONDENT ON THE MERITS

STATUTES INVOLVED

This case requires construction of the word "invention" as used in Sections 100, 101, 102, 103 and 112 of the Patent Act of 1952, 35 U.S.C. §§ 100, 101, 102, 103, 112. The full text of those statutes is set forth in the Appendix to this brief.

STATEMENT OF THE CASE

Petitioner Wayne K. Pfaff is the inventor listed on United States Patent No. 4,491,377, issued January 1, 1985, which relates to sockets for testing a particular type of semiconductor chip. [Pet. App. 172] The Federal Circuit held all of the claims-in-suit of petitioner's patent invalid under the on-sale bar of Section 102(b) of the Patent Act, 35 U.S.C. § 102(b), because he had placed his invention on sale in this country more than one year before he applied for the patent.

1. Petitioner applied for his patent on April 19, 1982. [Pet. App. 4] Because Section 102(b) gives claimants a one-year grace period to file a patent application, the "critical date" in this case is April 19, 1981. The relevant events that occurred before that date are undisputed.

Petitioner first began work on his invention in November 1980, when Texas Instruments Corporation (TI) asked him to develop a socket for its chip carriers. Soon thereafter, petitioner, having fully thought through all the details of the new socket, completed detailed engineering drawings that accurately depicted an

embodiment of his invention. The drawings contained both precise dimensions and materials requirements, and were very similar to the drawings he later used when applying for his patent. [Pet. App. 4, 9]

At the time, petitioner was confident, based on his experience in socket design, that his invention would work. The socket invention was mechanical and not complicated. Furthermore, TI was already waiting for the finished product. Accordingly, petitioner proceeded directly from his drawings to tooling and commercial production of the sockets without building and testing a prototype. Skipping the prototype step was his customary practice for this type of invention. Thus, in February or March of 1981, well before the critical date, petitioner sent his drawings to a manufacturing contractor named Weiss-Aug, which used those drawings to proceed directly to manufacture the invention on a commercial scale. [Pet. App. 9-11]

Also before the critical date, petitioner's wholly-owned company had entered into binding sales contracts for the sockets later claimed in his patent. By February 25, 1981, TI and petitioner had discussed an order for 25,000 sockets, and on March 17, 1981, petitioner's company received a verbal purchase order for over 30,000 sockets. That purchase order was confirmed in writing on April 8, 1981, before the critical date, and petitioner subcontracted the order to Weiss-Aug. As petitioner testified, he knew before the critical date that he had a "go" situation and that he and TI had a "deal," even though the sockets were not actually delivered until July 1981, after the critical date. Petitioner acknowledges that the

transaction with TI was purely commercial; no experimentation or further development of the invention was contemplated because the invention was functional. [Pet. App. 4, 6-7; Jt. App. 96-97]

2. In 1991, petitioner filed suit against respondent Wells Electronics, Inc., alleging infringement of his patent. [Jt. App. 5, 44] The district court initially granted respondent summary judgment on grounds of non-infringement, but the Court of Appeals for the Federal Circuit reversed and remanded for further proceedings. [Pet. App. 155-69]. On remand, a special master found that certain claims in petitioner's patent were invalid but that other claims were valid and infringed. [Pet. App. 23-154] In so holding, the special master concluded that petitioner's invention had not been on sale more than one year before his patent application, reasoning that although the invention had been commercialized by that critical date, it had not been reduced to practice because no physical embodiment existed at that time. [Pet. App. 121-26] The district court adopted the special master's opinion. [Pet. App. 21-22]

3. Both sides appealed. On appeal, a unanimous panel of the Federal Circuit held all the relevant claims of petitioner's patent invalid due to the on-sale bar of Section 102(b). [Pet. App. 1-20] The court noted that it had previously rejected the premise of the district court's refusal to apply the on-sale bar: that a physical embodiment is required. [Pet. App. 7-9 (citing *UMC Elecs. Co. v. United States*, 816 F.2d 647, 657 (Fed. Cir. 1987))] Because "[t]he substantially completed socket had entered the production phase prior to the critical date and a specific purchase order was being filled" [Pet. App. 10], the court

invalidated the four patent claims whose elements all had been demonstrated by petitioner's engineering diagrams.

Petitioner argued that even if those four claims were invalid due to the on-sale bar, two other claims were still valid because they required a "barb" that was not present in the engineering drawings and products ordered before the critical date. The court of appeals invalidated the two additional claims as well, however, reaffirming long-standing precedent that, under Sections 102(b) and 103 of the Patent Act, the on-sale bar also applies to claims that would have been obvious in light of the prior art combined with what actually had been on sale as of the critical date. [Pet. App. 13-20]

4. Petitioner sought rehearing on the ground that the Federal Circuit panel had misapprehended the nature of some of the testing petitioner had performed *after* the critical date, but the panel denied rehearing without amending its published opinion. [Pet. App. 170-71] Petitioner did not suggest rehearing *en banc* or contend that the panel had applied an improper legal standard for determining whether an "invention" is "on sale." Indeed, in the courts below petitioner *never* questioned that the one-year statutory grace period can be triggered even though the claimed invention technically has not been reduced to practice in the form of a tested, fully functional physical embodiment. Petitioner's position below was simply that his "invention" was not "on sale" as those terms had been defined under *established* Federal Circuit precedent construing Section 102(b). [*See* Opening Br. of Plf./Cross-Appellant, Nos. 96-1150, 96-1187, at 7-19 (Fed. Cir. May 16, 1996)]

5. Nevertheless, petitioner sought review in this Court on the ground that the Federal Circuit has improperly construed Section 102(b)'s on-sale bar since 1984. This Court granted certiorari.[1]

SUMMARY OF ARGUMENT

1. The proper question presented is not whether Section 102(b) requires that a "fully completed" or "substantially completed" invention be on sale to trigger the on-sale bar. Neither phrase appears in the statute. The issue is whether "invention" as used in Section 102(b) requires actual "reduction to practice" as used in Section 102(g) – the embodiment of the invention in a tangible prototype and testing to demonstrate that it works for its intended purpose. It does not. Because patents issue on "inventions," "invention" must have occurred when the device, process or compound is ready for patenting. Construction and testing of a working prototype is *not* required to obtain a patent. In addition, Section 102(g) does *not* provide that "invention" occurs at reduction to practice. It governs priority between rival claimants, providing that the patent goes to the first to *conceive* so long

[1] This Court's precedent warrants dismissal of the writ as improvidently granted because of petitioner's failure to raise the question presented in the courts below. This Court generally does not pass on arguments that were not presented to the courts below. *See, e.g., Pennsylvania Dep't of Corrections v. Yeskey*, No. 97-634, slip op. 6, 1998 U.S. LEXIS 3888, at *11 (June 15, 1998); *Taylor v. Freeland & Kronz*, 503 U.S. 638, 645-46 (1992).

as he or she is diligent (even if not first) to reduce to practice.

Furthermore, petitioner's construction would cause one of two unacceptable results. If petitioner's definition were limited to Section 102(b), "invention" would mean one thing there and different things elsewhere in Section 102 and the other sections governing patentability. If his definition were applied universally, many settled principles of patent law would be undermined and the purposes of other patentability limitations would be frustrated. To the extent the statute distinguishes between completion of the inventing process ("invention") and the thing invented ("the invention"), the latter should be read to refer to the claimed invention, so that Section 102(b) only requires comparison of the claimed invention with whatever was on sale before the critical date.

2. Petitioner's proposed construction of "invention" would thwart the primary policy underlying Section 102(b). That provision serves to encourage inventors to file patent applications without undue delay, to make new technologies known promptly and to hasten the time when the public may use them. Consistent with the underlying policy, the on-sale bar denies patent rights to any inventor who delays filing for a patent more than one year after beginning to commercialize the invention. Petitioner's construction would allow commercialization for more than one year before filing whenever the inventor chooses not to build a working physical embodiment of the invention before the first commercial construction or manufacture, something easily done in many cases including the present case. That result thwarts the prompt filing policy and purpose of the statute to allow no more than one year after commercialization for filing.

Petitioner claims his construction of "invention" would provide certainty as to when the grace period commences, but it would not. "Reduction to practice" inherently is a fact-intensive and uncertain standard.

3. Petitioner's proposed definition is not supported by legislative history or required by settled judicial precedent. Nothing in the legislative history supports petitioner's proposed engrafting of reduction to practice onto "invention." While certain committee reports suggest that the grace period commences only after "full completion" of the invention, none indicate that "full completion" means reduction to practice as opposed to the completion of the inventive process. While some of this Court's older decisions outside the on-sale bar context spoke of a need for an invention to have some "physical form," any such requirement was satisfied by detailed drawings.

Moreover, in the specific context of the on-sale bar, under long-settled law that petitioner does not dispute, the bar can be triggered even where the product on sale did not incorporate all elements of the claim in the later-filed patent application. It suffices that the claimed invention would have been *obvious* in light of what was on sale more than a year before the filing. Because reduction to practice occurs only when all elements of the claim are embodied in the physical embodiment tested, the settled law shows that the on-sale bar applies even if the invention had not been reduced to practice.

4. Petitioner's invention was on sale more than a year before he filed his patent application. There is no doubt that petitioner could have filed his application at that time. The invention was fully described by detailed

engineering drawings, which were nearly identical to the drawings submitted with the patent application. Petitioner did not bother to build a prototype because he knew his simple invention would work, and a buyer was ready for delivery. Petitioner's invention was not only on sale; 30,000 units of a physical embodiment already had been sold before the critical date. The sales activity was purely commercial; no further experimentation or development was contemplated. Under any test not requiring a physical embodiment, indeed any test that will not allow the inventor to manipulate the grace period by delaying building and testing a prototype, the on-sale bar applied in this case.

ARGUMENT

I. REDUCTION TO PRACTICE THROUGH THE CONSTRUCTION AND TESTING OF A WORKING PHYSICAL EMBODIMENT IS NOT REQUIRED FOR AN "INVENTION" TO BE "ON SALE" UNDER SECTION 102(b) OF THE PATENT ACT.

Under Section 102(b) of the Patent Act, an inventor may not obtain a patent if his or her "invention" was "on sale" in this country more than one year before he or she applied for an American patent.[2] The critical issue is

[2] Section 102(b) provides:

> A person shall be entitled to a patent unless –
>
> . . . .
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States . . . .

35 U.S.C. § 102(b).

what Section 102(b) of the Patent Act means by the word "invention." Petitioner attempts to frame the issue as whether an invention must be "substantially completed" or "fully completed," but that begs the question. Even assuming an "invention" must be "fully completed," that does not answer when an inventive idea or process matures into an "invention" under the statute. The true question presented thus is whether "invention" as used in Section 102(b) and elsewhere in the Patent Act should be read to require "actual reduction to practice" – the building and testing of a working physical embodiment of the claimed invention. For the reasons that follow, it should not.[3]

[3] Petitioner's statement of the question presented contains two significant inaccuracies. It states that "fully completed" is part of the "statutory definition" of when the one-year grace period commences. The phrase "fully completed" appears nowhere in the statute. Petitioner's statement also describes his invention as "admittedly not fully completed" more than one year before he filed his patent application. Respondent in fact contends that the invention *was* complete more than one year before that filing date.

A. "Invention" Has Occurred When an Inventor Can Properly Disclose the Apparatus or Process in a Patent Application; Actual Reduction to Practice Is Not a Requirement for a Patent or for "Invention."

As is always the case with statutory construction, the proper starting point is the text of the statute. Of course, the Court considers not only the bare meaning of the word in dispute, but also its placement and purpose in the statutory scheme. *See, e.g., Bailey v. United States*, 516 U.S. 137, 145 (1995). " '[I]n expounding a statute, [the Court] must not be guided by a single sentence or member of a sentence, but look to the provisions of the whole law, and to its object and policy.' " *United States Nat'l Bank v. Independent Ins. Agents of Am., Inc.*, 508 U.S. 439, 455 (1993). "Statutory construction 'is a holistic endeavor.' " *Id.*

The Patent Act does not directly define "invention," except to say that it is a shorthand for "invention or discovery." 35 U.S.C. § 100(a). Instead, the Act defines "invention" indirectly, by saying that the inventor or discoverer of an "invention" is entitled to a patent, if certain conditions are met. "Invention" as used in the patentability sections of the Act thus means the machine, process or composition of matter that the inventor will be entitled to patent if all statutory conditions are satisfied.

Section 101 of the Act, entitled "Inventions Patentable," provides that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement

thereof, may obtain a patent therefor, subject to the conditions and requirements of [Title 35 of the U.S. Code]." 35 U.S.C. § 101. The requirements for a patent are clear and strict. Section 101 itself imposes requirements of novelty and utility. *Id.* Section 102 lists certain conditions that disqualify an inventor from obtaining a patent and thereby further defines when an "invention" is novel. 35 U.S.C. § 102. Section 103 further requires that the "invention" not be obvious in light of the "prior art." 35 U.S.C. § 103. And Section 112 requires the inventor's patent application to describe "the manner and process of making and using" the invention sufficiently to enable one skilled in the art to make and use it; that section also requires a description of the "best mode" contemplated by the inventor to practice the invention. 35 U.S.C. § 112. Because of the "enabling disclosure" requirement, an invention is not ready for patenting until the applicant can describe both how to make and how to use the invention.

The requirements for patentability do *not*, however, include construction and testing of a working physical embodiment of the claimed invention ("actual reduction to practice"). The Patent Act contains no such requirement, and patents are routinely granted to inventors who have never actually built and tested what they claimed. Indeed, for 100 years this Court has recognized that an "invention" exists and may be patented as soon as the inventive process has matured to the point that the inventor can provide an enabling disclosure, regardless of whether he or she has actually built and tested a working embodiment of the invention. *Dolbear v. American Bell Tel. Co.*, 126 U.S. 1, 536 (1888) ("it is enough if [the inventor]

describes his method with sufficient clearness and precision to enable those skilled in the matter to understand what the process is"; Alexander Graham Bell held entitled to patent even though he had not successfully reduced his invention to practice); *cf. Philadelphia & Trenton R.R. v. Stimpson*, 39 U.S. (14 Pet.) 448, 462 (1840) (Story, J.) ("The invention may be consummated and perfect, and may be susceptible of complete description in words, a month or even a year before it can be embodied in any visible form, machine or composition of matter.").

The reason for this rule is that conception is the creative and inventive process. Once the invention has been fully thought out so that the inventor can make an enabling disclosure of the invention, by definition one skilled in the art can reduce it to practice. As the Court of Customs and Patent Appeals recognized long ago:

> The conception of the invention consists in the complete performance of the mental part of the inventive act. *All that remains to be accomplished in order to perfect the act or instrument belongs to the department of construction, not invention.*

Townsend v. Smith, 36 F.2d 292, 295 (1929) (emphasis added); *see also In re Tansel*, 253 F.2d 241, 243 (C.C.P.A. 1958); *Coleman v. Dines*, 754 F.2d 353, 359 (Fed. Cir. 1985).[4]

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[4] Conception is a rigorous standard. A "mere concept" is not enough to establish "invention" and obtain a patent. The conception must be "definite and permanent enough that one skilled in the art could understand the invention." *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994), *cert. denied*, 516 U.S. 1070 (1996). The inventor must have a "specific, settled idea, a particular solution to the problem at hand, not just a general goal or research plan he hopes to pursue." *Id.* Moreover, in priority contests the courts have long required an inventor to prove this level of conception with corroborating evidence, preferably a contemporaneous disclosure. *Id.*

Section 102(b) of the Patent Act incorporates this standard: if the inventor can apply for a patent, he or she must do so within one year of putting the invention on the market. As this Court has observed, quoting Judge Learned Hand: " '[I]t is a condition upon the inventor's right to a patent that he shall not exploit his discovery competitively after it is *ready for patenting*.' " *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 149 (1989) (emphasis supplied) (quoting *Metallizing Eng'g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 520 (2d Cir. 1946)). When the discovery or inventive idea is "ready for patenting," it has become an "invention" for purposes of Section 102(b). Neither patentability nor "invention" requires previous construction and testing of a physical embodiment.

B. Reduction to Practice Is a Test for Determining the Priority of Inventions, Not a Test for "Invention" Itself.

Petitioner attempts to import the concept of "reduction to practice," a phrase used only in Section 102(g) of the Patent Act, into the on-sale bar, arguing that Section 102(g) somehow defines "invention" to include actual reduction to practice. That argument is fundamentally flawed.

First, Section 102(g) does not purport to define "invention." The sentence relied upon by petitioner (the second) reads:

> *In determining priority of invention* there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

35 U.S.C. § 102(g) (emphasis added).

By its terms, this provision relates to contests over the priority of invention when two or more rivals claim the same invention. *See also* S. REP. NO. 82-1979 (1952), *reprinted in* U.S.C.C.A.N. 2394, 2399 ("1952 Senate Report") ("Subsection (g) relates to the question of priority of invention between rival inventors."). Under Section 102(g), which codified prior case law, the first to conceive, not first to reduce to practice, is deemed the inventor, as long as he or she was reasonably diligent in reducing the invention to practice, either actually or constructively by filing an enabling patent application. *See, e.g., Scott v. Finney*, 34 F.3d 1058, 1061 (Fed. Cir. 1994); *see also Marconi Wireless Tel. Co. of Am. v. United States*, 320 U.S. 1, 34 (1943) ("It is well established that as between two inventors priority of invention will be awarded to the one who by satisfying proof can show that he first conceived of the invention."); *Webster Loom Co. v. Higgins*, 105 U.S. 580, 594 (1882) ("An invention relating to machinery may be exhibited either in a drawing or in a model, so as to lay the foundation of a claim to priority, if it be sufficiently plain to enable those skilled in the art to understand it.").

If priority is not an issue, Section 102(g) is irrelevant. Section 102(b) does not raise priority issues. It is a statutory bar keyed to the filing date, not the date of invention.

Second, as used in Section 102(g) itself, "invention" does not encompass reduction to practice. The second sentence of Section 102(g) actually *disproves* petitioner's thesis to the contrary. If "invention" included reduction to practice, under the first sentence of Section 102(g)[5] the first to have both conceived *and* reduced to practice always would be deemed the inventor. There would be no need for the second sentence. In fact, the second sentence codifies the 150-year-old rule that the first to conceive is deemed first to invent, *even if last to reduce to practice*, as long as he or she was reasonably diligent in filing for a patent or pursuing actual reduction to practice.[6] *See, e.g., Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572,

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[5] The first sentence, including the Section 102 preamble, reads:

> A person shall be entitled to a patent unless –
>
> . . . .
>
> (g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it.

35 U.S.C. § 102(g).

[6] Before the Patent Act of 1836, priority was determined according to who first reduced the invention to practice, suggesting that reduction to practice was an aspect of invention. In *Bedford v. Hunt*, 3 F.Cas. 37 (C.C.D. Mass. 1817), Justice Story (then sitting as a circuit justice) held that "[t]he first inventor, who has put the invention in practice, and he only, is entitled to a patent." Courts construing the Patent Act of 1836 reached a different result, however. Justice Story, again sitting as a circuit

1577 (Fed. Cir. 1996); *Scott*, 34 F.3d at 1061. Thus, one obtains priority by being first to have fully thought through the invention. Only if an inventor is not diligent in reducing to practice does the defeasibility provision of Section 102(g) strip him or her of the right to a patent.[7]

In sum, if "invention" is construed to encompass actual reduction to practice, the long-settled rules of priority will be in disarray, and the language of Section 102(g) will become internally irreconcilable.

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justice, recognized that the old rule was "qualified" by the 1836 Act and concluded that priority goes to the inventor first to conceive provided that he or she was reasonably diligent in reducing the invention to practice. *Reed v. Cutter*, 20 F. Cas. 435, 438 (C.C.D. Mass. 1841). That rule still governs today.

[7] It is true in a sense that every invention that has been patented has been "reduced to practice," but only because every patent requires a patent application, which under a legal fiction is deemed a "constructive" reduction to practice. *See, e.g., Hazeltine Corp. v. United States*, 820 F.2d 1190, 1196 (Fed. Cir. 1987); *Weil v. Fritz*, 572 F.2d 856, 865-66 n.16 (C.C.P.A. 1978) (constructive reduction to practice is defined "as the filing of 'a complete and allowable application' "). But the patent application cannot be deemed the inventive act; it merely confirms a previous invention. To hold that an "invention" exists when a patent application is filed but not the day before when the application has been fully drafted would exalt form over substance.

C. Petitioner's Definition of "Invention" Is Inconsistent with Other Uses of the Word in Patentability Sections of the Patent Act.

Petitioner's proposed definition of "invention" leads to two alternative results, each unacceptable. The first is that "invention" encompasses reduction to practice in Section 102(b), but not in Section 101, other subparts of Section 102 or Section 103. That result violates the norm of statutory construction that where the same term is used in closely related portions of a statute, it is presumed to have the same meaning throughout. *See, e.g., Commissioner v. Lundy*, 516 U.S. 235, 249-50 (1996); *Sullivan v. Stroop*, 496 U.S. 478, 484 (1990).

The second alternative is to construe "invention" to require actual reduction to practice throughout the statute. Doing so, however, would disrupt well-settled principles and policies of patent law, as the following examples show:

Prior Art Date. Sections 102(a), (e) and (g) of the Patent Act all deal with prior art dated "before the [applicant's] invention." 35 U.S.C. § 102(a), (e), (g). Similarly, Section 103(a) determines obviousness as of "the time the invention was made." 35 U.S.C. § 103(a). If "invention" required actual reduction to practice, then "the time the invention was made" under Section 103 and the prior art cutoff under Section 102 would refer to the date the invention was reduced to practice. Under well-settled case law and Patent Office procedures, however, the critical date for prior art is the date of *conception*, as long as the inventor was reasonably diligent in filing for a patent or reducing to practice. *See, e.g., Mahurkar v. C.R. Bard*, 79

F.3d at 1577; 2 DONALD S. CHISUM, CHISUM ON PATENTS § 5.03[2][a] (1998) (the "date of invention" for antedating a reference under Section 103 is determined in the same manner as it is under Section 102); 37 C.F.R. § 1.131(b). Petitioner's redefinition of "invention" would undermine decades of settled practice.

Prior Knowledge, Use or Description. Section 102(a) of the Patent Act precludes issuance of a patent where

> the *invention* was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the *invention* thereof by the applicant for patent.

35 U.S.C. § 102(a) (emphasis added). This condition ensures that the applicant cannot get a patent on a machine or process that is not novel. Under settled precedent since before the Federal Circuit's creation, disqualifying prior knowledge under Section 102(a) does *not* have to relate to an invention that was already reduced to practice. *In re Borst*, 345 F.2d 851, 855 (C.C.P.A. 1965) (under Section 102(a) prior knowledge "need not be of an invention reduced to practice, either actually or constructively"). Under petitioner's proposed interpretation, an "invention" described in enabling detail in print years before a patent was sought would not bar the applicant from obtaining a patent on the old idea, so long as it was never reduced to practice. The evident purpose of the provision would be frustrated.

Although this Court has not had occasion to reach the question, Justice Holmes's opinion for the Court in

Alexander Milburn Co. v. Davis-Bournonville Co., 270 U.S. 390 (1926), supports this construction of Section 102(a). In holding that a patent speaks as prior art as of the date of the application for the patent, *Alexander Milburn* also considered whether a patent was invalid as a result of technology known and disclosed, but not claimed, in a previously filed patent application. *Id.* at 400-01. In holding that the later patent was invalid in light of the previously disclosed material, the Court emphasized that the disclosure demonstrated that the patentee was not the first to invent. *Id.* at 399-400. This was so, even though the disclosed technology had not been actually reduced to practice, and (because it was not claimed) it had not been constructively reduced to practice. *Id.* at 400.

Petitioner's definition of "invention" likewise cannot be squared with the plain language of Section 102(b) relating to prior art in printed publications, which reads:

> A person shall be entitled to a patent unless . . . (b) the *invention* was patented or described in a printed publication . . . more than one year prior to the date of the application for patent . . . .

35 U.S.C. § 102(b) (emphasis added). If, as petitioner argues, "invention" requires reduction to practice for purposes of the on-sale bar, then even if the claimed invention had been "described in a printed publication" in enabling fashion, the printed publication would not bar patenting if the invention had not been reduced to practice. This result, obviously contrary to the intent of the statute, is also contrary to *Alexander Milburn*, which confirmed that a printed publication can be invalidating prior art even if what it describes has never been reduced

to practice. *Accord In re Donohue*, 766 F.2d 531 at 533 (Fed. Cir. 1985) (invention described in prior publication did not have to be actually reduced to practice to constitute invalidating prior art).[8]

Petitioner's reading also would undermine Section 102(e), which codified the Court's holding in *Alexander Milburn* that a patent speaks as prior art as of the date of the patent application. A patent may not issue if

> the *invention* was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent . . . .

35 U.S.C. § 102(e) (emphasis added); *see* 1952 Senate Report at 2410 (intent to codify *Alexander Milburn*). Once again, if "invention" as used in Section 102(e) requires actual reduction to practice, teachings described in a patent but not yet reduced to a physical embodiment are not disqualifying prior art. That is contrary to the Court's analysis in *Alexander Milburn*.

Abandonment. Section 102(c) of the Patent Act precludes patenting where the claimant "has abandoned the

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[8] *Eames v. Andrews*, 122 U.S. 40 (1887), is not to the contrary. That case holds that for a printed publication to constitute prior art, "the account published . . . must be an account of a complete and operative invention, capable of being put into practical operation." *Id.* at 66. An invention can be "capable of being put into practical operation" before it has actually been reduced to practice. *Cf. Philadelphia & Trenton R.R.*, 39 U.S. at 460 ("It might take a year to construct a steamboat, after the inventor had completely mastered all the details of his invention, and had fully explained them to all the various artisans whom he might employ to construct the different parts of the machinery.").

invention." 35 U.S.C. § 102(c). Abandonment may occur either by express declaration or by conduct. *See, e.g., Kendall v. Winsor*, 62 U.S. (21 How.) 322, 331 (1859). An "invention" can be abandoned even before the invention has been reduced to practice in the form of a working, tested embodiment. *See Gayler v. Wilder*, 51 U.S. (10 How.) 477, 497-98 (1850) (prior invention held abandoned even though it had not been "tested" as would be required under modern definition of "reduction to practice"). Surely, for example, under Section 102(c) an inventor who describes an invention in print and expressly dedicates it to the public should be deemed to have abandoned the invention and cannot thereafter retract that dedication and obtain a patent. But under petitioner's proposed definition of "invention," if no working prototype had been constructed and tested, such printed description and dedication would not bar the subsequent application because what was described and dedicated was not an "invention." That result is contrary to the plain intent of the statute.

Petitioner's view also runs contrary to the "dedication to the public" doctrine. Material disclosed but not claimed in an issued patent is often held abandoned by dedication to the public. *McClain v. Ortmayer*, 141 U.S. 419, 420 (1891); *Edward Miller & Co. v. Bridgeport Brass Co.*, 104 U.S. 350, 352 (1882); *Maxwell v. J. Baker, Inc.*, 86 F.3d 1098, 1105-06 (Fed. Cir. 1996), *cert. denied*, 117 S. Ct. 1244 (1997); *In re Gibbs*, 437 F.2d 486 (C.C.P.A. 1971). Abandonment in this manner does not require consideration of whether the unclaimed matter has been reduced to

practice. *See Maxwell*, 86 F.3d at 1105-06; *Unique Concepts, Inc. v. Brown*, 939 F.2d 1558, 1562-63 (Fed. Cir. 1991).[9]

D. "Invention" Has Two Grammatical Uses in Sections 102 and 103, But Neither Requires Actual Reduction to Practice.

Grammatically, "invention" is used two ways in Sections 102 and 103 of the Patent Act. At times it refers to the thing invented, and at times it refers to the act or process of inventing. Section 102(a), for example, refers to an "invention . . . known or used by others in this country . . . before the invention thereof by the applicant for patent." 35 U.S.C. § 102(a). The first use of "invention" clearly refers to the thing invented, while the second refers to completion of the process of inventing.

For present purposes, those two grammatical uses may be read consistently: when "invention" (the process) is complete, an "invention" (the thing) exists and may be patented, subject to the requirements of Sections 101, 102, 103 and 112. As demonstrated above, the inventive process is complete and a patent may be issued on the thing invented before actual reduction to practice occurs, and priority against other art or claimed inventions is generally determined according to the date of conception, not the date of reduction to practice.

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[9] *But cf. Corrège v. Murphy*, 705 F.2d 1326, 1328 (Fed. Cir. 1983) (stating that there can be no abandonment before actual reduction to practice but not considering the "dedicated to the public" line of cases).

If there is any inconsistency, however, it further undermines petitioner's proposed definition. "Invention" as used to refer to the thing invented may be read to refer to the invention ultimately claimed in the patent application. This "claimed invention" reading accords with the way patent lawyers, the Patent and Trademark Office and courts in patent infringement cases all apply Sections 102 and 103 in practice. In patentability disputes, the questions are whether references of the types listed in Section 102 anticipated the invention described by the claims, or whether that art at least rendered the claims obvious, precluding a patent under Section 103.

Section 102(b) uses "invention" to refer only to the thing invented. Thus, if "invention" (the thing invented) means "claimed invention," the on-sale bar would provide: "the [claimed] invention was . . . on sale in this country, more than one year prior to the date of the application for patent in the United States." On this view, the court or patent examiner would compare the claims in the patent application with whatever product was on sale before the critical date. The developmental stage of that product, including reduction to practice, would be irrelevant (so long as the sale was primarily for commercial purposes and not for experimental use). In a recent on-sale bar case, Judge Bryson adopted this approach:

> [T]he language and policies of the statute are best captured by the following rule: if the sale or offer in question embodies the invention for which a patent is later sought, a sale or offer to sell that is primarily for commercial purposes

and that occurs more than one year before the application renders the invention unpatentable.

Seal-Flex, Inc. v. Athletic Track & Court Constr., 98 F.3d 1318, 1325 (Fed. Cir. 1996) (concurring opinion); *see also* William C. Rooklidge, *Application of the On-Sale Bar to Activities Performed Before Reduction to Practice*, 72 J. PAT. & TRADEMARK OFF. SOC'Y 543 (1990).

In short, the on-sale bar can be read to require that the inventive process be completed, or it can be read simply to require a comparison of claimed invention with what was on sale before the critical date. Either way, however, the one-year grace period may start to run even though the item on sale had not yet been reduced to practice.

II. REQUIRING CONSTRUCTION AND TESTING OF A PHYSICAL EMBODIMENT BEFORE THE ON-SALE BAR CAN BE TRIGGERED WOULD THWART THE POLICIES BEHIND SECTION 102(b) AND WOULD NOT PROMOTE CERTAINTY IN ITS APPLICATION.

In construing statutes, this Court's goal is to effectuate Congress's intent. As part of that analysis, this Court considers the design of the statute as a whole and the policies that Congress was trying to promote in adopting the statute. *See, e.g., Crandon v. United States*, 494 U.S. 152, 158 (1990). Petitioner's construction of "invention" in Section 102(b) runs contrary to Congress's purposes in adopting that provision. Moreover, the claimed policy benefit of petitioner's construction (certainty) is illusory.

A. Petitioner's Construction Would Allow Inventors Who Have Begun to Commercialize Their Inventions to Extend Their Statutory Monopolies by Delaying Both Reduction to Practice and Filing for Patent.

The patent laws "embod[y] a carefully crafted bargain for encouraging the creation *and disclosure* of new, useful, and nonobvious advances in technology . . . in return for the exclusive right to practice the invention for a [limited] period of years." *Bonito Boats*, 489 U.S. at 150-51 (emphasis supplied). In exchange for exclusivity, the public receives two benefits: (1) the publication of the enabling disclosure and statement of best mode contemplated for practicing the invention that must be provided to obtain the patent; and (2) the right to use the invention freely when the patent expires. *Id.*; *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 186-87, *modified*, 289 U.S. 706 (1933).

Section 102(b) of the Patent Act serves these broad policies by encouraging prompt filing of patent applications – and by discouraging undue delay in filing them. Prompt filing promotes widespread public disclosure of new technology in the form of issued patents and prevents undue delay of the time when the invention may be used freely by all. The on-sale bar "prevent[s] the inventor from commercially exploiting the exclusivity of his invention beyond the statutorily authorized 17-year [or now 20-year] period." *General Elec. Co. v. United States*, 654 F.2d 55, 60-61 (Ct. Cl. 1981).

As this Court recognized even before Congress adopted the on-sale bar, allowing inventors to delay

unduly the passage of their invention into the public domain retards, rather than promotes, the useful arts. *Pennock v. Dialogue*, 27 U.S. (2 Pet.) 1, 19 (1829) (to allow an inventor to first commercialize and then patent only when forced to by competition "would materially retard the progress of science and the useful arts, and give a premium to those who should be least prompt to communicate their discoveries"). As Judge Hand later observed, although privately practicing an invention does not "mak[e] use of [the inventor's] secret to gain a competitive advantage over others," "exploit[ing] [the] discovery competitively after it is ready for patenting" improperly "extend[s] the period of his monopoly." *Metallizing Engineering*, 153 F.2d at 520. Section 102(b) was designed to prevent just that.[10]

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[10] As Judge Easterbrook has written:

> Judges sometimes say that the function of a rule such as Section 102(b) is preventing the "extension" of the patent monopoly. Ordinary sales *in competition* do not yield monopoly profits, and the longer an inventor sells his product without seeking a patent, the more competition there is likely to be. Yet the threat of a patent application in the background may stifle the power of competition. A potential rival deciding whether to invest in equipment to make the product must consider the possibility that after costs have been sunk, the inventor will apply for a patent. Fear of losing their investment may discourage rivals and enable the inventor to collect supra-competitive profits before obtaining a patent. Section 102(b) limits to one year the duration of this *in terrorem* effect.

In re Mahurkar Double Lumen Patent Litig., 831 F. Supp. 1354, 1369 (N.D. Ill. 1993), *aff'd*, 71 F.3d 1573 (Fed. Cir. 1995).

Petitioner's proposed construction would thwart this fundamental purpose. An inventor could effectively enlarge the one-year grace period by neither actually reducing to practice nor filing for a patent on the completed invention while offering it for sale and completing all preparations for manufacture. Indeed, as discussed in Section IV below, that is precisely what happened in this case.[11]

Ironically, although petitioner purports to rely on Section 102(g)'s reference to reduction to practice, he ignores that his proposed construction is contrary to the purpose of that very provision. The second sentence of Section 102(g) encourages an inventor to proceed diligently to build a working embodiment of the invention (actually reduce it to practice) or to file a patent application (constructively reduce it to practice). Yet if reduction

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[11] It might be argued that, as a practical matter, the improper extension of the statutory monopoly would not be great because commercialization eventually will require a physical embodiment through the sale of actual goods (merely putting patent *rights* on sale has been held not to trigger the "on sale" requirement, *see Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1267 (Fed. Cir. 1986)). But the statute must apply to an infinite variety of fact situations, and delay in reduction to practice may be lengthy in some cases. More importantly, any attempt to alter the balance established by Congress in Section 102(b) is improper. Congress has already expressed its concern that even short delays in patent applications can allow too much commercialization. In 1939, Congress cut the statutory grace period for filing applications from two years to one precisely because two years allowed inventors to handicap the public excessively. Patent Act of 1939, ch. 450, § 1, 53 Stat. 1212 (1939); *See* H.R. Rep. No. 76-961, at 1 (1939) ("1939 House Report"); S. Rep. No. 76-876, at 1 (1939) ("1939 Senate Report").

to practice is required before the one-year period begins to run, inventors will be encouraged to delay that reduction to practice so that they can effectively extend their statutory monopolies. This is not simply a theoretical concern. Given today's computer simulation techniques, physical embodiments often are not necessary until commercial production begins.

B. Engrafting Actual Reduction to Practice onto "Invention" Would Not Provide Additional Certainty in the Application of the On-Sale Bar.

The main argument petitioner and amici advance for requiring actual reduction to practice before the on-sale bar's grace period commences is that inventors need a well-understood, predictable, easily applied, bright-line rule to know when they must apply for a patent. Petitioner's promise of certainty is illusory. Even a cursory review of interference cases under 35 U.S.C. § 102(g) demonstrates that an "actual reduction to practice" requirement provides no bright line, but almost always entails uncertain, fact-intensive analysis.

"[P]roof of actual reduction to practice requires demonstration that the embodiment relied upon as evidence of priority actually worked for its intended purpose . . . [and] that every limitation of the [claimed invention] must exist in the embodiment and be shown to have performed as intended." *Newkirk v. Lulejian*, 825 F.2d 1581, 1582 (Fed. Cir. 1987); *see also* 3 CHISUM ON PATENTS § 10.06 at 10-156 ("Actual reduction to practice occurs when the inventor (1) constructs a product or performs a process that is within the scope of the patent claims, and

(2) demonstrates the capacity of the inventive idea to achieve its intended purpose.")

As an initial matter, then, actual reduction to practice of an invented machine requires the construction of a physical embodiment of the machine that includes every essential limitation of the claim. The test of whether "every limitation" exists in the subject embodiment is the same test used for determining patent infringement. *See, e.g., SmithKline Diagnostics, Inc. v. Helena Labs. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988). Determining reduction to practice may be no less complex than determining infringement, commonly the subject of lengthy trials.[12]

The requirement that the embodiment be tested sufficiently to demonstrate its functionality adds further uncertainty to the date of reduction to practice. As the Federal Circuit has observed, "the character of the testing varies with the character of the invention and the problem it solves." *Scott*, 34 F.3d at 1062. Whether testing is adequate may turn on whether the results were appreciated or understood [*see, e.g., Estee Lauder Inc. v. L'Oreal, S.A.*, 129 F.3d 588 (Fed. Cir. 1997)], and on whether the claim is a method claim or an apparatus claim [*see, e.g.,*

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[12] Petitioner's standard would also allow clever claims draftsmen to control whether every limitation of the claimed invention existed in the subject embodiment. In some cases, the applicant would want to establish an early date for actual reduction to practice (for priority purposes); in others, a later one (to avoid the on-sale bar, under petitioner's construction). *See UMC Elecs.*, 816 F.2d at 655 ("by invoking reduction to practice as developed in interference law, an inventor might be able to escape the on-sale bar simply through deft claim draftsmanship"). Although some such gamesmanship may be inevitable, it should not be encouraged.

Fujikawa v. Wattanasin, 93 F.3d 1559 (Fed. Cir. 1996)]. Litigants frequently dispute whether testing adequately demonstrates that the invention will work in its intended environment. *See, e.g., Scott*, 34 F.3d at 1061; *DSL Dynamic Sciences Ltd. v. Union Switch & Signal, Inc.*, 928 F.2d 1122 (Fed. Cir. 1991). Ultimately, "[d]rawing the line between operability, which is required [for reduction to practice], and commercial refinement, which is not, is a difficult task." 3 CHISUM ON PATENTS § 10.06[2][a] at 10-172.

In short, the improper engrafting of "reduction to practice" onto "invention" would not provide inventors with any bright-line certainty as to when they must file. Probably no standard can. And in any event, conception and enabling disclosure are no less universally understood, no less easily applied and no less predictable.[13]

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[13] Various writers, though not petitioner, have urged that "invention" triggering Section 102(b) be delayed until actual reduction to practice in order not to encourage premature patent applications. The answer to that is fourfold. First, to avoid triggering the on-sale bar, the inventor can simply not put the invention on sale. Second, the application need not be filed immediately: Section 102(b) provides a one-year grace period during which time the inventor can determine whether an application is worthwhile. Third, the "experimental use" exception allows the inventor to use and even sell products embodying the inventive idea while refining it without triggering Section 102(b), so long as the primary purpose is experimental, not commercial. *See, e.g., City of Elizabeth v. American Nicholson Pavement Co.*, 97 U.S. 126 (1878). And fourth, to preserve timeliness and avoid unnecessary early complication, the inventor can file a provisional patent application requiring only a specification and drawing but not claims. *See* 35 U.S.C. § 111(b).

III. NEITHER THE LEGISLATIVE HISTORY NOR THE CASE LAW ON SECTION 102(b) REQUIRES A TESTED, WORKING PHYSICAL EMBODIMENT BEFORE THE ON-SALE BAR CAN BE TRIGGERED.

Petitioner misconstrues both the legislative history of the Patent Act and the precedents of this Court and the lower courts that have applied it.

A. The Legislative History of the Patent Act Provides No Basis for a Reduction to Practice Requirement.

Petitioner correctly notes that when Congress shortened the statutory grace period for the bar that now appears in Section 102(b), its legislative staff stated that the old 1870 statute

> permit[ted] an inventor, after his invention is fully completed, to make the invention known to the public for a period of 2 years before filing his application for patent.

1939 House Report at 1; 1939 Senate Report at 1. But petitioner simply assumes that the authors of the report intended or understood "fully completed" to mean "actually reduced to practice." The legislative history nowhere supports that assumption.

Indeed, the context suggests that the legislative staff did *not* equate "full completion" with "actual reduction to practice." The very next sentence explained what was meant by making a "fully completed invention" known to the public:

> An invention may be described in print, sold, and used widely by anyone . . . and after a period of up to 2 years, an application for patent can be filed by the original inventor and a valid patent obtained . . . .

1939 House Report at 1; 1939 Senate Report at 1. If "fully completed invention" meant an invention that had been "actually reduced to practice," then a description in print could not preclude a patent unless the description was of an invention that had been actually reduced to practice. As *Alexander Milburn* illustrates, that was not then and is not now the law. 270 U.S. at 399-400; *see also Graham v. John Deere Co.*, 383 U.S. 1, 6 (1966) (Congress is precluded by the Constitution from "authoriz[ing] the issuance of patents whose effects are to remove existent knowledge from the public domain").[14]

Petitioner also cites the 1939 committee reports' reference to "when the invention is made," suggesting that "is made" means "actual reduction to practice." [Pet. Br. 21] Again, the legislative history contains no support for this conclusion. Discussions as to how an invention "was made" commonly refer to conception of an invention. For example, Section 103(c) of the current Patent Act states

[14] Even if "full completion" were read to require actual reduction to practice, this snippet of legislative history does not prove petitioner's point. The sentence with that language simply says that if an inventor publicizes the invention after reduction to practice, he or she has two years (now one year) to file. Everyone agrees with that. The committee report does *not* say that the inventor would have more than two years (now one year) to file if the publication occurred *before* reduction to practice, which is petitioner's position.

that "[p]atentability shall not be negatived by the manner in which the invention *was made*." 35 U.S.C. § 103(c) (emphasis added). That sentence was intended to abolish the "flash of genius" test for *conception* that this Court previously had appeared to apply. *Graham*, 383 U.S. at 15; *see also* S. REP. NO. 82-1979, at 18 (1952) (sentence designed to provide that "it is immaterial whether [an invention] resulted from long toil and experimentation or from a flash of genius"). Likewise, Section 103(a) provides that obviousness is determined as of when "the invention was made," and, as noted above, it is well settled that the relevant date is the date of conception, not the date of reduction to practice. *See also* 15 U.S.C. § 3703(9), (10) (defining "invention" to be the same as under the Patent Act, and defining "made" as "the conception *or* first actual reduction to practice of such invention" (emphasis supplied)).[15]

B. If Anything, this Court's Decisions Suggest that "Invention" Does *Not* Require a Working Embodiment.

Petitioner cites *Clark Thread Co. v. Willimantic Linen Co.*, 140 U.S. 481 (1891), and *T.H. Symington Co. v. National Malleable Castings Co.*, 250 U.S. 383 (1919), in support of

[15] In *Austin v. Marco Dental Prods., Inc.*, 560 F.2d 966, 970 (1977), the Ninth Circuit suggested that the legislative history of the *1836* Patent Act somehow supported a reduction to practice requirement for the on-sale bar. Suffice it to say that the section relied on (which discussed the need for time to improve on inventions) did not even relate to the on-sale bar. *See* S. REP. NO. 24-338, at 6 (1836). Petitioner understandably does not rely on it.

his position that "reduction to practice" is required for "invention." Those cases, however, did not require true reduction to practice (demonstration of the operability of a prototype) for "invention"; in fact, they made clear that engineering drawings satisfied any physical embodiment requirement.

Clark Thread suggested in *dicta* that "[a] conception of the mind is not an invention until represented *in some physical form.*" 140 U.S. at 489 (emphasis added). But that formulation certainly is not the same as the Section 102(g) "reduction to practice" standard advocated by petitioner. Indeed, as *Clark Thread* explained, sufficiently detailed drawings would have satisfied its "physical form" requirement. *Id.* at 489-90. Only because of the inadequate evidence of timely drawings or other clear proof of prior conception – an evidentiary problem – did the Court conclude that the "invention" there had not been "completed" until construction of the machine. *Id. T.H. Symington* later equated *Clark Thread*'s "physical form" requirement with "models, drawings or some kindred evidence." 250 U.S. at 383. Thus it too cannot be read as requiring construction and testing of a physical embodiment before an "invention" occurs. Petitioner is correct that this Court's earlier decision in *Seymour v. Osborne* noted that to "constitute an invention, the party must have proceeded so far as to have reduced his idea to practice, and embodied it *in some distinct form.*" 78 U.S. (11 Wall.) 516 (1871) (emphasis added). But *Seymour*'s "distinct form" requirement need not be read to require any more than the drawings demanded by the Court in *Clark Thread* and *T.H. Symington*.

Petitioner also cites *Corona Cord Tire Co. v. Dovan Chem. Corp.*, 276 U.S. 358 (1928), but that case is inapposite. It involved a prior invention defense to a patent infringement claim, and thus presented a classic question of priority, which requires consideration of reduction to practice. *Id.* at 382. There apparently was no issue as to who was first to conceive the invention. Indeed, the Court strongly intimated that the invention was such that conception could have occurred only when the invention was demonstrated by an actual reduction to practice. *Id.* at 368-69 ("The catalytic action of an accelerator can not be forecast by its chemical composition, for such action is not understood and is not known except by actual test.") Ordinarily, of course, conception predates reduction to practice.

C. This Court and the Lower Courts Have Long Held that the Statutory Bar Can Apply Even Though the Item on Sale Did Not Incorporate All Elements of the Claimed Invention and Hence the "Invention" Had Not Been Reduced to Practice.

For over 100 years, this Court and the lower courts have consistently recognized that the statutory bar of Section 102(b) and its predecessors can be triggered even when the physical product on sale did *not* incorporate all elements later claimed in the patent application, and hence the claimed invention had not been reduced to practice.

In *Hall v. Macneale*, 107 U.S. 90 (1883), the Court held that a patent claim on certain bolts was invalid because the "invention" had been in use and on sale more than

two years before the patent application, even though the eventual patent claim also required screw-threads and the bolts sold earlier did not have screw-threads. *Id.* at 96; *see also International Tooth-Crown Co. v. Gaylord*, 140 U.S. 55 (1891) (applicant abandoned dental invention to public by publicly using it for profit two years before application; even though later patent claimed additional elements, those were obvious). Through the years it has remained settled that for the Section 102(b) bar to apply, the product "on sale" before the critical date need not be strictly identical to – embody all the limitations of – what is claimed in a patent application or patent. The statutory bar also applies if the claimed invention would have been *obvious* in light of what was on sale more than a year before the patent application.

Because of the obviousness standard, the Federal Circuit often refers to this as the "Section 102(b)/103 bar." *See, e.g., Lough v. Brunswick Corp.*, 86 F.3d 1113, 1122 n.5 (Fed. Cir. 1996), *cert. denied*, 118 S. Ct. 43 (1997); *UMC Elecs.*, 816 F.2d at 655-56. But the doctrine existed long before Section 103 was codified, and several courts have suggested that inherent in Section 102(b) standing alone is the principle that

> public disclosure of an invention more than a year before a patent application is filed forecloses patentability, not only of the precise embodiment disclosed, but also of subsequent novel improvements unless such an improvement is itself patentable as an invention.

Frantz Mfg. Co. v. Phenix Mfg. Co., 457 F.2d 314, 320 (7th Cir. 1972) (Stevens, J.); *accord In re Foster*, 343 F.2d 980, 988 (C.C.P.A. 1965).

Whether derived from Section 102(b) alone or from the combination of Sections 102(b) and 103, this settled rule cannot be reconciled with petitioner's argument that Section 102(g) reduction to practice is inherent in the Section 102(b) on-sale bar. Again, Section 102(g) reduction to practice requires that *all elements* of the claim be present in a physical embodiment. *Hall v. Macneale* and its progeny demonstrate that the on-sale bar can apply even though all elements of the claim were *not* embodied in a physical product on sale before the critical date.

Tellingly, petitioner does not challenge this settled principle.[16] Petitioner has relied on the dissenting opinion in *UMC Electronics*, which recognized that Section 102(b) contains no such strict identity requirement but argued that "it is the 'thing offered' which must have been reduced to practice." 816 F.2d at 661 (Smith, J., dissenting). But "reduction to practice" is a concept applicable to an "invention," not to a product or "thing offered." And under settled law, the claimed invention itself need not have been reduced to practice for the on-sale bar to apply.

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[16] The Federal Circuit below relied on this rule to invalidate all the claims in suit, even those containing a barb that was not present on the sockets to be delivered to TI. [Pet. App. 13-15, 20] Petitioner has not sought review of that holding, only the basic Section 102(b) holding that was the predicate to the Federal Circuit's 102(b)/103 analysis.

D. Pre-Federal Circuit Precedent Applied Section 102(b) Inconsistently and Did Not Strictly Require Reduction to Practice as Used in Section 102(g).

Petitioner also suggests that before the Federal Circuit's decision in *UMC Electronics*, the lower courts had consistently applied Section 102(b) and its predecessors to require Section 102(g)-like actual reduction to practice. [Pet. Br. 23-24; Pet. 9-10] Not so: the law had been inconsistent for decades, and in any event the courts did not strictly apply a true Section 102(g) "actual reduction to practice" standard.

Beginning in 1912, a few lower courts held, with little reasoning or analysis, that the on-sale bar grace period could not be triggered unless an offer for sale was made while product was "on hand," in inventory and ready for delivery. *See, e.g., B.F. Sturtevant Co. v. Massachusetts Hair & Felt Co.*, 124 F.2d 95 (1st Cir. 1941); *Burke Elec. Co. v. Independent Pneumatic Tool Co.*, 234 F. 93 (2d Cir. 1916); *McCreery Eng'g Co. v. Massachusetts Fan Co.*, 195 F. 498 (1st Cir. 1912). Most of the circuits, however, had not decided the issue, and ultimately the "on hand" doctrine became discredited by both courts and commentators. *See, e.g., Timely Prods. Corp. v. Arron*, 523 F.2d 288, 299-302 (2d Cir. 1975); *Dart Indus., Inc. v. E.I. Du Pont De Nemours & Co.*, 489 F.2d 1359, 1365 (7th Cir. 1973) (Stevens, J.); *Philco Corp. v. Admiral Corp.*, 199 F. Supp. 797, 814-18 (D. Del. 1961) (noting tension of "public use" cases with "on hand" doctrine and describing Section 102(b) case law as "in a state of confusion"); Robert A. Reed, Note, *The "On Sale" Provision as a Bar to Patentability*, 27 U. PITT. L. REV. 887, 890 (1966).

To be sure, some of the courts rejecting the "on hand" doctrine purported to continue to require "reduction to practice" before the on-sale bar could be triggered. *See, e.g., Timely Prods.*, 523 F.2d at 299-302. But actual reduction to practice as used in Section 102(g) was *not* required. Some courts interpreted the supposed "requirement" of "reduction to practice" as not requiring a fully completed physical embodiment. *See, e.g., Red Cross Mfg. Corp. v. Toro Sales Co.*, 525 F.2d 1135, 1141 (7th Cir. 1975) ("essential completion" standard); *Langsett v. Marmet Corp.*, 231 F. Supp. 759 (W.D. Wis. 1964) (on-sale bar applied even though only detailed drawings existed at time of sales activity); *see also Jamesbury Corp. v. Worcester Valve Co.*, 443 F.2d 205, 211 n.9 (1st Cir. 1971) (diagrammatic or written explanation constitutes reduction to practice if sufficient to enable one of ordinary skill to manufacture invention).

Furthermore, as discussed above, *none* of the courts required that all elements of the *invention itself* have appeared in a tested physical embodiment before the on-sale bar could be triggered, as would be the case if a true Section 102(g) standard applied. What is now called the Section 102(b)/103 bar applies if the claimed invention would have been *obvious* to skilled artisans in light of what had been on sale more than a year before the patent application. Even the courts that purported to graft "reduction to practice" onto Section 102(b) also recognized the 102(b)/103 bar and hence created an exception where some limitations of the patent had no physical

embodiment but nevertheless could be easily reduced to practice. *See, e.g., Timely Prods.*, 523 F.2d at 302 (complete invention must be either embodied in *or obvious in view of* the thing offered for sale before critical date).

In short, there simply was no settled body of law adopting the standard petitioner advocates, either in this Court or the lower courts.

IV. UNDER ANY REASONABLE STANDARD, PETITIONER'S INVENTION WAS ON SALE MORE THAN A YEAR BEFORE HE FILED HIS PATENT APPLICATION.

The facts of this case well illustrate why petitioner's importation of Section 102(g) actual reduction to practice into Section 102(b) must be rejected.

It is undisputed that petitioner had fully completed his inventive process before he began to commercialize his invention, and more than a year before he filed his patent application. He had detailed engineering drawings that accurately depicted a full embodiment of his invention. [Pet. App. 9] It is equally clear that before any sales order was received, petitioner could have filed a patent application with an enabling disclosure. The detailed engineering drawings in fact enabled his manufacturer to prepare customized tooling and proceed to commercial production of the sockets. [Pet. App. 9-10] No further inventive activity occurred or was needed. Furthermore, not only were petitioner's sockets on sale, but over 30,000 units had already been sold by the critical date. [Pet. App. 7] There is no doubt that what was on sale was also what petitioner belatedly patented. Petitioner's engineering drawings were very similar to (indeed, more detailed than) the actual drawings submitted to obtain the patent. [Pet. App. 9] And finally, there is no dispute that petitioner's sales activity was purely commercial, with no additional experimentation or development planned. [Pet. App. 7][17]

Under any reasonable reading of Section 102(b), there can be no doubt that petitioner placed his "invention . . . on sale in this country, more than one year prior to the date of the application for patent in the United States." 35 U.S.C. § 102(b).

Even if the Court believes that some physical representation of the invention is required to trigger the one-year clock, any such requirement should be held satisfied in this case. Petitioner was in position to prepare and file a patent application when he put his invention on sale,

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[17] Contrary to the suggestion of some amici, this case does *not* implicate the inventor's need to experiment and test inventive ideas that are not fully developed. As the Federal Circuit found, petitioner was *not* experimenting with the technology; he knew it would work, which is precisely why he decided to proceed directly from drawings to commercial-scale production without manufacturing prototypes first. [Pet. App. 7, 10-11] This Court and the lower courts have recognized that there may be experimental uses or sales that will not trigger the one-year grace period of Section 102(b). *See, e.g., City of Elizabeth v. American Nicholson Pavement Co.*, 97 U.S. 126 (1878) (experimental use); *U.S. Envtl. Prods., Inc. v. Westall*, 911 F.2d 713, 717 (Fed. Cir. 1990) (experimental sale). But the proper scope of the experimental use/sale doctrine is simply not an issue in this case.

and, like a proper patent application, his drawings enabled one skilled in the art to build and use a working physical embodiment. If a patent application constitutes "constructive reduction to practice" for purposes of Section 102(g), then petitioner's conduct should be deemed a "constructive reduction to practice" for purposes of Section 102(b). Notably, in some respects petitioner had gone even further than "actual reduction to practice" requires. Petitioner had actually developed (if not yet constructed) a commercial embodiment of his invention more than one year before the critical date. Petitioner not only knew his invention would work, but had fully designed a commercial embodiment, including detailed drawings specifying exact dimensions, manufacturing tolerances and materials for each part of his sockets – conduct required for commercialization, but *not* for an actual reduction to practice.[18] [Pet. App. 9]

To hold that petitioner's invention was not on sale on these facts would be both bad law and bad policy.

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[18] In *Seal-Flex v. Athletic Track & Court Construction*, the Federal Circuit appeared to require that the invention be "known to work for its intended purpose" before the one-year grace period could begin to run. 98 F.3d at 1322. In this case, however, petitioner knew his invention would work and that no experimentation was necessary. [Pet. App. 7, 10-11] Any such requirement was therefore met here.

CONCLUSION

Given the extensive sales activities and commercialization that occurred before the critical date, petitioner can prevail only if Section 102(b) is read to contain an absolute requirement that a physical embodiment of the invention be built and tested before the one-year grace period begins to run. Neither the language of the Patent Act nor its legislative history nor the policies it serves nor the precedents of this Court require or support that result.

The judgment of the court of appeals should be affirmed.

June 29, 1998.

Respectfully submitted,

C. Randall Bain
Counsel of Record
Alan H. Blankenheimer
Patricia A. Hubbard
C. Mark Kittredge
Dan L. Bagatell

Brown & Bain, P.A.
2901 North Central Avenue
Suite 2000
Phoenix, Arizona 85012
(602) 351-8000

James D. Hall
Baker & Daniels
205 West Jefferson Boulevard
Suite 250
South Bend, Indiana 46601
(219) 234-4149

Counsel for Respondent
Wells Electronics Inc.

STATUTORY APPENDIX

The following sections appear in Title 35 of the U.S. Code:

§ 100. Definitions

When used in this title unless the context otherwise indicates –

(a) The term "invention" means invention or discovery.

. . . .

§ 101. Inventions patentable

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

§ 102. Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in

this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or

(f) he did not himself invent the subject matter sought to be patented, or

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

§ 103. Conditions for patentability; non-obvious subject matter

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

. . . .

(c) Patentability shall not be negatived by the manner in which the invention was made. Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

§ 112. Specification

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

. . . .